# 1997 Annual Report of the Use of the Grade Crossing Protection Fund

The Illinois Commerce Commission has produced a report on the use of the Grade Crossing Protection Fund since 1955. This report endeavors to explain the processes the Commission uses to administer its grade crossing improvement program, and it discusses the accident and fatality results of the prior year. The Commission has been pleased that grade crossing accidents and fatalities have greatly declined over the years, despite large increases in population in certain areas, increases in motor vehicle miles traveled, and ever expanding number of trains to haul the nation's freight. The credit for this success goes to the General Assembly which created the Grade Crossing Protection Fund, and which enabled the Commerce Commission to administer one of the most successful programs of its kind in the nation.

This issue of the Grade Crossing Fund Report is the last one that will take this form. Beginning in April, 1999 and each year thereafter, the Commission will publish an annual and a five year grade crossing improvement plan that will indicate projects scheduled for implementation in the coming years. This planning process was required by S.B 2510, which the General Assembly passed, and Governor Edgar signed, in 1998. Despite the fact that the new law will alter this report significantly, it is the Commission's intention to include accident and fatality statistics, project status, and many other items in future reports to keep the General Assembly informed of the progress of the Grade Crossing Protection Program.

## Uses of the fund:

The purpose of the Grade Crossing Protection Fund is to help pay the cost of safety improvements at public rail-highway crossings on county, township, road district, and municipal street systems, with the aim of reducing the number of deaths and injuries caused by accidents at railroad crossings. The four types of improvements eligible for funding support are:

- Installing new or improving existing warning device systems.
- Improving the vertical and horizontal alignment of highway approaches and the reconstruction of crossing surfaces at rail-highway grade crossings.
- Constructing or reconstructing grade separation structures.
- Constructing or improving access roads in connection with safety improvements at crossings or crossing closures.

Generally, the Fund's contribution to the actual cost of the installation of warning devices is 85 percent, while its participation in the construction or reconstruction of grade separations is typically at the 60 percent level.

A unit of local government or a registered rail carrier may request funding for a project from the Illinois Commerce Commission (Commission). Upon receiving a request for funding, the Commission's staff will meet with the parties involved to determine if it is possible to reach an agreement on the scope of the work and the portion of the funding to be assumed by each party. If all of the necessary items are agreed to, a formal document called a "Stipulated Agreement" is prepared and signed by all parties [generally the railroad, the local unit of government and/or the Illinois Department of Transportation (IDOT), and the Commission's staff]. Based on this agreement, an Order is presented to the Commission for action. If the Commission concurs, it approves the project without holding a hearing and issues the Order implementing the terms of the agreement. This process, approved in 1976 by the Legislature and signed into law by the Governor, has resulted in less cost to the parties, since a hearing in Chicago or Springfield is not required, and it reduces the time for implementing the needed improvements. Since inception of the Stipulated Agreement process through the end of calendar year 1997, 709 Commission Orders have been entered as a result of Stipulated Agreements. This figure represents approximately 61 percent of the Orders entered by the Commission during this period.

If the parties cannot agree as to need or cost sharing, or if the improvement is of a type which cannot be accomplished by the Stipulated Agreement procedure because of statutory limitations on its use (for example, no new crossing can be created or existing crossings closed), or if the crossing does not meet the minimum criteria for Stipulated Agreement use, one of the parties may petition the Commission to order that an improvement be undertaken and that the cost be divided among the appropriate parties. In such cases the Commission will hold a formal hearing and the affected parties will present their evidence. If, at the conclusion of the hearing process, the Commission determines the project is justified, it will issue an Order requiring the improvement, establishing a time frame, and dividing the cost for the project.

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## Fund revenue and expenditures:

Public Act 89-699, was signed into law by Governor Edgar on January 16, 1997. Among other things, this new law requires the Commission to account for expenditures of Grade Crossing Protection Fund moneys on a cash basis rather than the previous accrual basis. This process authorizes the cost of a project to be allocated over a number of fiscal years as the actual costs are incurred. The expenditure of funds on a cash basis should allow for a more efficient use of the funds.
Currently, payments from the Fund are in fact reimbursements made as projects progress, with final payment being made after completion of the project. In almost all cases, the time span between the issuance of the Commission Order directing expenditure of Fund money and final payment from the Fund is greater than one year where the installation of warning devices is involved and up to four years or more for grade separation structures. The cash balance also includes portions of contingency amounts on completed projects that were not spent, since no unanticipated costs were encountered on the project (contingency amounts are usually five to ten percent of the engineer's estimate to cover things necessary to the project which the engineer did not anticipate). The absence of a need to expend contingency funds coupled with bids which are below engineers' estimates frequently cause the actual amount paid out to be less than the estimated cost. Due to the lower and extended payouts from the Fund, the cash balance in the Fund was $41,201,841 as of January 2, 1998. This is a reduction of $5,183,467 from the balance as of January 2, 1997.
Since 1955, $265,000,000 has been allocated to the Fund. However, since 1987 when the legislature first authorized the annual transfer of funds to the Commission for administrative operating purposes, $8,437,500 has been transferred from this amount to the Commission's Transportation Regulatory Fund, leaving $256,562,500 available for approved projects. The total amount obligated to projects since inception of the Fund is $279,855,914. During the 1997 calendar year, $22,651,867 was obligated by the Commission. The chart on page 13 indicates the number of crossing improvements performed in each county since inception of the Fund, with and without the Fund participating in the cost.
During calendar 1997, money was accumulated in the Fund at the rate of $1.5 million per month through allocations from current Motor Fuel Tax receipts producing a full year total of $18,000,000. During this same time period, $1.5 million was transferred from the Grade Crossing Protection Fund to the Commission's Transportation Regulatory Fund to pay for the cost of the Commission's administration of the Grade Crossing Protection Fund.
In 1997, the Commission entered 70 Original Orders and 15 Supplemental Orders which directed a total Fund obligation of $22,651,867. These Fund monies helped to pay for crossing signal improvements at 108 existing public grade crossings, installation of three new grade crossings, crossing surface improvements at two crossings, highway approach improvements at four crossings, improvement or construction of three connecting roads, and the improvement or construction of 10 grade separation structures (see Table 1 for locations). In conjunction with these improvements, 15 existing public rail-highway grade crossings were closed during 1997. The yearly obligations from the Grade Crossing Protection Fund since 1955 for each category of expenditure are shown in the chart on page 14.
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| LOCATIONS OF 1997 GRADE SEPARATION PROJECTS | |
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| **No. of Structures** | **Location** |
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## Railroad Crossing Safety: At Grade Crossings

While crossing closures have been considered as part of the Commission's overall rail-highway crossing safety program for many years, very little was done in this area across the nation. However, in December 1992, Federal Railroad Administrator, Gilbert Carmichael, issued a paper called "The Highway-Rail Grade Crossing Safety Initiative", wherein he recommended closure of 25 percent of the nation's crossings because they are redundant. Since then, several state legislatures have updated statutes encouraging crossing closures. While most other state programs are in their infancy, Illinois' program goes back to the mid fifties. From 1955 through the end of 1997, 730 public at-grade crossings have been closed in Illinois or an average of 17 per year. Effective November 8, 1995, the Commission adopted 92 Ill. Adm. Code 1536, Grade Crossing Closure and Opening, pursuant to Public Act 88-296 signed by the Governor on August 11, 1993. This code part contains criteria which must be used by the Commission in determining whether to allow new crossings to be opened or to require existing public rail-highway crossings to be closed.
Of the 1997 Fund improvements, Commission Orders directed a total Fund obligation of $930,039 to be used to match or supplement $4,665,658 in Federal Intermodal Surface Transportation Efficiency Act Funds administered by the Illinois Department of Transportation. These jointly funded projects implemented warning device improvements at 19 crossings, crossing surface improvements at one crossing, and highway approach improvements at one crossing.

## Grade Crossing Separations

Because of the major expense involved in constructing or reconstructing rail-highway grade separation structures (which can range from $300,000 to $16.9 million based on projects ordered by the Commission), it is necessary to obtain state, local, federal, and/or railroad funds which can be combined with Grade Crossing Protection Funds in order to undertake these projects. Many rail-highway grade separations in Illinois are in a deteriorated or substandard condition and require reconstruction. Reconstruction is necessary either to increase vertical and/or horizontal clearance where highways pass under railroads or to increase the width, strength, and vertical alignment of structures carrying highway traffic over railroads. In densely populated areas with heavy rail and vehicular traffic, there is a need to construct new structures either to replace congested grade crossings or on new highway alignments. With the increase in the Grade Crossing Protection Fund to $1.5 million per month (effective October 1, 1989) and a legislative mandate that at least $6 million per year be spent on grade separations, this aspect of the Commission's program has received more emphasis. During FY 97, $10,659,672 was obligated from the Fund for 16 grade separation projects. The increase in Grade Crossing Protection Fund money has also enabled the Commission to fund a higher percentage of the cost of grade separation projects. The Commission is now normally paying 60 percent of the cost. As a result of the increased percentage paid by the Fund, it is now easier to complete funding arrangements among units of local government, railroads, and various other funding sources for grade separation projects. During calendar year 1997, $1,593,378 in Fund money was used in conjunction with $962,595 in federal bridge reconstruction and replacement funds, administered by the Illinois Department of Transportation, for two bridge reconstruction projects.

## Interconnected Crossings

In an effort to address the issue of public safety at rail-highway crossings where grade crossing warning devices are interconnected with highway traffic signals, Public Act 89-699, previously referred to in this report, was signed into law. The new law requires Commission approval of any changes to warning device systems interconnected with traffic signals and gives the Commission authority to order the installation, removal, or modification of interconnections at grade crossings.

When traffic signals are interconnected, the normal sequence of traffic signal indications is preempted upon the approach of trains to avoid entrapment of vehicles on the crossing. The preemption feature requires an electrical circuit between the control relay of the grade crossing warning system and the traffic signal system. Once the preemption is initiated, the highway traffic signals bring into effect a display which will permit vehicles to clear the tracks before the train reaches the crossing. After the train has cleared the crossing the preemption ends and the traffic signals go back to their normal sequence of operation. To date there are 260 crossings in Illinois which are interconnected with adjacent traffic signals. Over the last two years Commission staff has worked with IDOT, railroad and equipment manufacturer engineers in the development of enhanced rail-highway interconnect design features such as: 1) a supervised three-wire interconnect circuit; 2) traffic signal controllers equipped with multiple re-servicing capabilities; and 3) the installation of pre-signals at crossings with short storage spaces.

At this time, IDOT has submitted engineering reports to the Commission which recommend highway traffic signal timing changes at approximately 134 State-maintained traffic signal systems interconnected with grade crossing warning devices. The Commission has approved IDOT's proposed traffic signal sequence timings and the use of advanced traffic signal controllers at approximately 92 of these locations. In addition, railroad control circuitry modifications are planned for these and other interconnected crossings. The Commission is actively pursuing cost estimates from railroads for the crossing control circuitry changes. However, progress on this work is dependent on how long it takes for the Commission to receive the requested cost estimates. Currently it is taking six months or longer for railroads to submit cost estimates after a request for such estimates has been made by either the Commission or IDOT.

To date, approximately 44 locations have either had proposed railroad control circuitry changes approved by the Commission or staff has found no changes are necessary. In addition, staff is currently trying to resolve outstanding design issues between IDOT and some railroads concerning the placement of traffic signals on railroad cantilevers and increasing the minimum preemption time greater than 35 seconds.

## Enforcement

A new grade crossing warning device enforcement program has been initiated through Public Act 89-454 which was approved on May 17, 1996 and amended 70 ILCS 3615/2.20 requiring the Regional Transportation Authority to work in cooperation with the Illinois Commerce Commission and local law enforcement agencies to establish a two-year pilot program in DuPage County to determine the effectiveness of an automated railroad grade crossing enforcement system. Also on May 17, 1996, 625 ILCS was amended to add Section 5/11-1201.1 to the Illinois Vehicle Code. This new section provides for a pilot program on the effectiveness of an automated railroad grade crossing enforcement system and states that this system is to be installed at three rail-highway crossings chosen by the Commission. The Commission is to choose these crossings based on the number of accidents and fatalities which occurred during the five year period prior to approval of the Act and with the support of the local law enforcement agency having jurisdiction at the crossing. Along with the automated enforcement system, a sign shall be posted visible to traffic approaching the crossing stating that the crossing is being monitored, that citations will be issued, and the amount of the fine. If a violation occurs, the law enforcement agency having jurisdiction shall issue a written traffic citation to the registered owner of the vehicle within 30 days of the violation. The citation will include information about the vehicle and it's owner; the date, time, location, and type of offense; the first available court date; and that the basis of the citation is the photograph or other recorded image from the automatic railroad grade crossing enforcement system. At the end of this two-year period, the Commission is to issue a report to the General Assembly on the effectiveness of the program. The Grade Crossing Protection Fund shall pay the cost for installation and maintenance of the automatic enforcement system as long as the crossing is not on a rail line owned by the Commuter Rail Board of the Regional Transportation Authority. After a review of the crossings in DuPage County was made by Commission staff, the Commission ordered the first installation to take place at the Irving Park Road (IL 19) crossing with METRA tracks located in Wood Dale. METRA is governed by the Regional Transportation Authority. Two other sites have been selected and these projects will move forward as soon as cost estimates are submitted to the Commission. These other two sites are the River Road crossing with The Burlington Northern and Santa Fe Railway Company in Naperville and the Sunset Avenue crossing with Union Pacific Railroad Company near Winfield.

## Accidents

In 1997, as shown in the chart on page 15, there were 185 rail-highway grade crossing accidents. These accidents involved a total of 26 fatalities, 21 of which were motor vehicle fatalities and five of which were pedestrian fatalities. Seventeen of the grade crossing accidents and one of the fatalities occurred on Northeast Illinois Regional Commuter Railroad Corporation (METRA) owned or leased track. METRA is a part of the Regional Transportation Authority serving six counties in the Chicago metropolitan area and is not eligible for Grade Crossing Protection Fund participation. Also, in past years METRA was not subject to the Commission's jurisdiction to require improvements at rail-highway crossings. However, on April 11, 1997, METRA and the Illinois Commerce Commission entered into an agreement pursuant to authority granted by the Intergovernmental Cooperation Act (5 ILCS 220/1, et. seq.). This agreement states that METRA should be governed by the Commission's rules and decisions with regard to all safety issues enumerated in 92 Ill. Admn. Code, Chapter III, Part 1535.

As shown in the graph on page 16, accidents at railroad crossings have decreased in seven of the last ten years. In 1997, there were 52 percent fewer accidents than in 1988. Six of the fatalities in 1997 occurred in three multiple fatality accidents, while the remainder occurred in single fatality accidents. To help categorize railroad crossing accidents for calendar year 1997, the graph on page 17 indicates the hour of the day accidents occurred and the graphs on page 18 show accidents broken down by the type of roadway system, the classification of roadway, and the highway users involved in the accidents. In order to define the areas where accidents occurred during 1997, the chart on page 19 lists total accidents, fatalities, and injuries by county of occurrence.

The number of accidents by the type of warning device for 1997 is also shown in the chart on page 15. According to 1996 nationwide statistics, only 37 percent of the nation's rail-highway crossings (excluding Illinois') were provided with automatic warning devices. Approximately 54 percent of Illinois' rail-highway crossings are equipped with automatic warning devices; however, 63 percent of Illinois' crossing accidents and 65 percent of Illinois' crossing fatalities happened at these crossings. This is largely due to the obvious reason that signalized crossings have more vehicular traffic traversing them, thus increasing the accident exposure factor at these crossings. Eight fatalities occurred at crossings provided with automatic flashing light signals and gates and nine occurred at crossings provided with automatic flashing light signals. Nine fatalities occurred at crossings with crossbucks. The 63 percent figure for accidents at crossings with automatic warning devices is down from an average of 71 percent over the last 16 years. In 1997, 70 accidents occurred at crossings equipped with gates, 47 accidents occurred at crossings with flashing lights, 66 accidents occurred at crossbuck crossings, and two occurred at crossings with other types of warning. With regard to calendar year 1997 fatal accident sites, one of these crossings was under Commission order for installation of automatic flashing light signals and gates (which have been installed) and three crossings are included in pending Stipulated Agreements for installation of automatic warning devices. Another two crossings were part of the Illinois Department of Transportation's FY 97 and FY 98 Safety Programs and the Commission has approved the installation of gate arms at these locations (these warning devices have also been installed).

The 185 accidents and 26 fatalities which occurred during 1997 in Illinois are the lowest number of collisions and fatalities recorded during the 53 years the Commission has kept accident statistics. The previous lows were 203 accidents and 34 fatalities recorded in 1996.

Accident figures on the national level for 1997 indicate a nine percent decrease in rail-highway crossing accidents and a six percent decrease in fatalities. Illinois' accident figure mirrors that of the nation with a nine percent decrease; however, the number of fatalities decreased by an impressive 23.5 percent. Public Act 89-186, which became effective January 1, 1996, increased the penalty in Illinois for disregarding a railroad crossing warning device from a $75 moving violation to a mandatory $500 fine or 50 hours of community service. Enforcement actions by some local police departments and METRA police under this new law must be credited for some of the reduction in northeastern Illinois. Accidents in the six county northeastern Illinois area are down 12 percent over last year, with accidents in the remainder of the state showing an eight percent decrease. Continuing media attention in the northeastern part of the state has also kept rail safety issues on the minds of area drivers. This higher visibility coverage must also be given credit for the accident reductions the last two years. Since train operations are currently at an all time high, this is an even more impressive accomplishment. These actions have complemented the Commission's 22-year Operation Lifesaver program and the State's continuing effort to invest in improved crossing warning devices and grade separations statewide.

The figures for the first part of 1998 indicate that the favorable trend in accident reduction continues. Accidents were down by 17% compared to the same period in 1997, however, there have been two more fatalities during the same comparison period. The following chart shows month by month statistics:

| ACCIDENTS AND FATALITIES AT PUBLIC HIGHWAY-RAIL CROSSINGS |
|---|

| 1997 THROUGH JUNE, 1998 | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | ACCIDENTS | | FATALITIES | | |
| | | 1997 | 1998 | 1997 | 1998 | |
| | JAN | 29 | 11 | 2 | 2 | |
| | FEB | 12 | 10 | 1 | 0 | |
| | MAR | 22 | 21 | 3 | 3 | |
| | APR | 15 | 16 | 2 | 5 | |
| | MAY | 10 | 10 | 2 | 3 | |
| | JUN | 11 | 14 | 2 | 1 | |
| | JUL | 13 | | 4 | | |
| | AUG | 7 | | 0 | | |
| | SEP | 9 | | 0 | | |
| | OCT | 22 | | 7 | | |
| | NOV | 18 | | 2 | | |
| | DEC | 17 | | 1 | | |
| | | 185 | 82 | 26 | 14 | |

There are two charts relating to the exposure factor at public grade crossings. The exposure factor is the daily average number of trains multiplied by the daily average number of vehicles that use a crossing. The graph by warning device type indicates the total exposure factor for all public grade crossings in Illinois broken down by the type of warning devices. As can be seen from the table below, more accidents occurred at crossings with crossing gates than crossings with only flashing light signals. Crossings provided with automatic flashing light signals and gates accounted for 38 percent of the 1997 crossing accidents, but have 85 percent of the total exposure factor.

The effectiveness of gates as a means of deterring accidents also can be shown in the following table by comparing the exposure factor percentage to the total accidents percentage for each type of warning device:

| Type of Protection | Exposure Factor | Number of Accidents | Percent of Total |
|---|---|---|---|
| Gates | 85% | 70 | 38% |
| Flashing Lights | 12% | 47 | 25% |
| Crossbucks | 2% | 66 | 36% |
| Other | 1% | 2 | 1% |

Thus, crossings equipped with gates have 85 percent of the rail and vehicular traffic, but only 38 percent of the accidents; flashing lights have only 12 percent of such traffic, but 25 percent of the accidents; and crossbucks have only two percent of such traffic, but 36 percent of the accidents.

While the installation of automatic warning devices is an important means of lowering the number of individuals involved in train-vehicle collisions, this alone will not eliminate all accidents at railroad crossings. The State must continue its "3E" efforts: Engineering, Education, and Enforcement.

**For more information on this program please contact the Commission at 217/7827660.**

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Of the 1997 Fund improvements, Commission Orders directed a total Fund obligation of $930,039 to be used to match or supplement $4,665,658 in Federal Intermodal Surface Transportation Efficiency Act Funds administered by the Illinois Department of Transportation. These jointly funded projects implemented warning device improvements at 19 crossings, crossing surface improvements at one crossing, and highway approach improvements at one crossing.

## Grade Crossing Separations

Because of the major expense involved in constructing or reconstructing rail-highway grade separation structures (which can range from $300,000 to $16.9 million based on projects ordered by the Commission), it is necessary to obtain state, local, federal, and/or railroad funds which can be combined with Grade Crossing Protection Funds in order to undertake these projects. Many rail-highway grade separations in Illinois are in a deteriorated or substandard condition and require reconstruction. Reconstruction is necessary either to increase vertical and/or horizontal clearance where highways pass under railroads or to increase the width, strength, and vertical alignment of structures carrying highway traffic over railroads. In densely populated areas with heavy rail and vehicular traffic, there is a need to construct new structures either to replace congested grade crossings or on new highway alignments. With the increase in the Grade Crossing Protection Fund to $1.5 million per month (effective October 1, 1989) and a legislative mandate that at least $6 million per year be spent on grade separations, this aspect of the Commission's program has received more emphasis. During FY 97, $10,659,672 was obligated from the Fund for 16 grade separation projects. The increase in Grade Crossing Protection Fund money has also enabled the Commission to fund a higher percentage of the cost of grade separation projects. The Commission is now normally paying 60 percent of the cost. As a result of the increased percentage paid by the Fund, it is now easier to complete funding arrangements among units of local government, railroads, and various other funding sources for grade separation projects. During calendar year 1997, $1,593,378 in Fund money was used in conjunction with $962,595 in federal bridge reconstruction and replacement funds, administered by the Illinois Department of Transportation, for two bridge reconstruction projects.

## Interconnected Crossings

In an effort to address the issue of public safety at rail-highway crossings where grade crossing warning devices are interconnected with highway traffic signals, Public Act 89-699, previously referred to in this report, was signed into law. The new law requires Commission approval of any changes to warning device systems interconnected with traffic signals and gives the Commission authority to order the installation, removal, or modification of interconnections at grade crossings.

When traffic signals are interconnected, the normal sequence of traffic signal indications is preempted upon the approach of trains to avoid entrapment of vehicles on the crossing. The preemption feature requires an electrical circuit between the control relay of the grade crossing warning system and the traffic signal system. Once the preemption is initiated, the highway traffic signals bring into effect a display which will permit vehicles to clear the tracks before the train reaches the crossing. After the train has cleared the crossing the preemption ends and the traffic signals go back to their normal sequence of operation. To date there are 260 crossings in Illinois which are interconnected with adjacent traffic signals. Over the last two years Commission staff has worked with IDOT, railroad and equipment manufacturer engineers in the development of enhanced rail-highway interconnect design features such as: 1) a supervised three-wire interconnect circuit; 2) traffic signal controllers equipped with multiple re-servicing capabilities; and 3) the installation of pre-signals at crossings with short storage spaces.

At this time, IDOT has submitted engineering reports to the Commission which recommend highway traffic signal timing changes at approximately 134 State-maintained traffic signal systems interconnected with grade crossing warning devices. The Commission has approved IDOT's proposed traffic signal sequence timings and the use of advanced traffic signal controllers at approximately 92 of these locations. In addition, railroad control circuitry modifications are planned for these and other interconnected crossings. The Commission is actively pursuing cost estimates from railroads for the crossing control circuitry changes. However, progress on this work is dependent on how long it takes for the Commission to receive the requested cost estimates. Currently it is taking six months or longer for railroads to submit cost estimates after a request for such estimates has been made by either the Commission or IDOT.

To date, approximately 44 locations have either had proposed railroad control circuitry changes approved by the Commission or staff has found no changes are necessary. In addition, staff is currently trying to resolve outstanding design issues between IDOT and some railroads concerning the placement of traffic signals on railroad cantilevers and increasing the minimum preemption time greater than 35 seconds.

## Enforcement

A new grade crossing warning device enforcement program has been initiated through Public Act 89-454 which was approved on May 17, 1996 and amended 70 ILCS 3615/2.20 requiring the Regional Transportation Authority to work in cooperation with the Illinois Commerce Commission and local law enforcement agencies to establish a two-year pilot program in DuPage County to determine the effectiveness of an automated railroad grade crossing enforcement system. Also on May 17, 1996, 625 ILCS was amended to add Section 5/11-1201.1 to the Illinois Vehicle Code. This new section provides for a pilot program on the effectiveness of an automated railroad grade crossing enforcement system and states that this system is to be installed at three rail-highway crossings chosen by the Commission. The Commission is to choose these crossings based on the number of accidents and fatalities which occurred during the five year period prior to approval of the Act and with the support of the local law enforcement agency having jurisdiction at the crossing. Along with the automated enforcement system, a sign shall be posted visible to traffic approaching the crossing stating that the crossing is being monitored, that citations will be issued, and the amount of the fine. If a violation occurs, the law enforcement agency having jurisdiction shall issue a written traffic citation to the registered owner of the vehicle within 30 days of the violation. The citation will include information about the vehicle and it's owner; the date, time, location, and type of offense; the first available court date; and that the basis of the citation is the photograph or other recorded image from the automatic railroad grade crossing enforcement system. At the end of this two-year period, the Commission is to issue a report to the General Assembly on the effectiveness of the program. The Grade Crossing Protection Fund shall pay the cost for installation and maintenance of the automatic enforcement system as long as the crossing is not on a rail line owned by the Commuter Rail Board of the Regional Transportation Authority. After a review of the crossings in DuPage County was made by Commission staff, the Commission ordered the first installation to take place at the Irving Park Road (IL 19) crossing with METRA tracks located in Wood Dale. METRA is governed by the Regional Transportation Authority. Two other sites have been selected and these projects will move forward as soon as cost estimates are submitted to the Commission. These other two sites are the River Road crossing with The Burlington Northern and Santa Fe Railway Company in Naperville and the Sunset Avenue crossing with Union Pacific Railroad Company near Winfield.

## Accidents

In 1997, as shown in the chart on page 15, there were 185 rail-highway grade crossing accidents. These accidents involved a total of 26 fatalities, 21 of which were motor vehicle fatalities and five of which were pedestrian fatalities. Seventeen of the grade crossing accidents and one of the fatalities occurred on Northeast Illinois Regional Commuter Railroad Corporation (METRA) owned or leased track. METRA is a part of the Regional Transportation Authority serving six counties in the Chicago metropolitan area and is not eligible for Grade Crossing Protection Fund participation. Also, in past years METRA was not subject to the Commission's jurisdiction to require improvements at rail-highway crossings. However, on April 11, 1997, METRA and the Illinois Commerce Commission entered into an agreement pursuant to authority granted by the Intergovernmental Cooperation Act (5 ILCS 220/1, et. seq.). This agreement states that METRA should be governed by the Commission's rules and decisions with regard to all safety issues enumerated in 92 Ill. Admn. Code, Chapter III, Part 1535.

As shown in the graph on page 16, accidents at railroad crossings have decreased in seven of the last ten years. In 1997, there were 52 percent fewer accidents than in 1988. Six of the fatalities in 1997 occurred in three multiple fatality accidents, while the remainder occurred in single fatality accidents. To help categorize railroad crossing accidents for calendar year 1997, the graph on page 17 indicates the hour of the day accidents occurred and the graphs on page 18 show accidents broken down by the type of roadway system, the classification of roadway, and the highway users involved in the accidents. In order to define the areas where accidents occurred during 1997, the chart on page 19 lists total accidents, fatalities, and injuries by county of occurrence.

The number of accidents by the type of warning device for 1997 is also shown in the chart on page 15. According to 1996 nationwide statistics, only 37 percent of the nation's rail-highway crossings (excluding Illinois') were provided with automatic warning devices. Approximately 54 percent of Illinois' rail-highway crossings are equipped with automatic warning devices; however, 63 percent of Illinois' crossing accidents and 65 percent of Illinois' crossing fatalities happened at these crossings. This is largely due to the obvious reason that signalized crossings have more vehicular traffic traversing them, thus increasing the accident exposure factor at these crossings. Eight fatalities occurred at crossings provided with automatic flashing light signals and gates and nine occurred at crossings provided with automatic flashing light signals. Nine fatalities occurred at crossings with crossbucks. The 63 percent figure for accidents at crossings with automatic warning devices is down from an average of 71 percent over the last 16 years. In 1997, 70 accidents occurred at crossings equipped with gates, 47 accidents occurred at crossings with flashing lights, 66 accidents occurred at crossbuck crossings, and two occurred at crossings with other types of warning. With regard to calendar year 1997 fatal accident sites, one of these crossings was under Commission order for installation of automatic flashing light signals and gates (which have been installed) and three crossings are included in pending Stipulated Agreements for installation of automatic warning devices. Another two crossings were part of the Illinois Department of Transportation's FY 97 and FY 98 Safety Programs and the Commission has approved the installation of gate arms at these locations (these warning devices have also been installed).

The 185 accidents and 26 fatalities which occurred during 1997 in Illinois are the lowest number of collisions and fatalities recorded during the 53 years the Commission has kept accident statistics. The previous lows were 203 accidents and 34 fatalities recorded in 1996.

Accident figures on the national level for 1997 indicate a nine percent decrease in rail-highway crossing accidents and a six percent decrease in fatalities. Illinois' accident figure mirrors that of the nation with a nine percent decrease; however, the number of fatalities decreased by an impressive 23.5 percent. Public Act 89-186, which became effective January 1, 1996, increased the penalty in Illinois for disregarding a railroad crossing warning device from a $75 moving violation to a mandatory $500 fine or 50 hours of community service. Enforcement actions by some local police departments and METRA police under this new law must be credited for some of the reduction in northeastern Illinois. Accidents in the six county northeastern Illinois area are down 12 percent over last year, with accidents in the remainder of the state showing an eight percent decrease. Continuing media attention in the northeastern part of the state has also kept rail safety issues on the minds of area drivers. This higher visibility coverage must also be given credit for the accident reductions the last two years. Since train operations are currently at an all time high, this is an even more impressive accomplishment. These actions have complemented the Commission's 22-year Operation Lifesaver program and the State's continuing effort to invest in improved crossing warning devices and grade separations statewide.

The figures for the first part of 1998 indicate that the favorable trend in accident reduction continues. Accidents were down by 17% compared to the same period in 1997, however, there have been two more fatalities during the same comparison period. The following chart shows month by month statistics:

| ACCIDENTS AND FATALITIES AT PUBLIC HIGHWAY-RAIL CROSSINGS |
|---|

| 1997 THROUGH JUNE, 1998 | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | ACCIDENTS | | FATALITIES | | |
| | | 1997 | 1998 | 1997 | 1998 | |
| | JAN | 29 | 11 | 2 | 2 | |
| | FEB | 12 | 10 | 1 | 0 | |
| | MAR | 22 | 21 | 3 | 3 | |
| | APR | 15 | 16 | 2 | 5 | |
| | MAY | 10 | 10 | 2 | 3 | |
| | JUN | 11 | 14 | 2 | 1 | |
| | JUL | 13 | | 4 | | |
| | AUG | 7 | | 0 | | |
| | SEP | 9 | | 0 | | |
| | OCT | 22 | | 7 | | |
| | NOV | 18 | | 2 | | |
| | DEC | 17 | | 1 | | |
| | | 185 | 82 | 26 | 14 | |

There are two charts relating to the exposure factor at public grade crossings. The exposure factor is the daily average number of trains multiplied by the daily average number of vehicles that use a crossing. The graph by warning device type indicates the total exposure factor for all public grade crossings in Illinois broken down by the type of warning devices. As can be seen from the table below, more accidents occurred at crossings with crossing gates than crossings with only flashing light signals. Crossings provided with automatic flashing light signals and gates accounted for 38 percent of the 1997 crossing accidents, but have 85 percent of the total exposure factor.

The effectiveness of gates as a means of deterring accidents also can be shown in the following table by comparing the exposure factor percentage to the total accidents percentage for each type of warning device:

| Type of Protection | Exposure Factor | Number of Accidents | Percent of Total |
|---|---|---|---|
| Gates | 85% | 70 | 38% |
| Flashing Lights | 12% | 47 | 25% |
| Crossbucks | 2% | 66 | 36% |
| Other | 1% | 2 | 1% |

Thus, crossings equipped with gates have 85 percent of the rail and vehicular traffic, but only 38 percent of the accidents; flashing lights have only 12 percent of such traffic, but 25 percent of the accidents; and crossbucks have only two percent of such traffic, but 36 percent of the accidents.

While the installation of automatic warning devices is an important means of lowering the number of individuals involved in train-vehicle collisions, this alone will not eliminate all accidents at railroad crossings. The State must continue its "3E" efforts: Engineering, Education, and Enforcement.

**For more information on this program please contact the Commission at 217/7827660.**